

Abstract

A method and apparatus are provided for enhancing a signal quality from a first atom of a pair of spin-spin coupled atoms, in a magnetic resonance imaging system. The method includes the steps of exciting the first atom of the pair of spin-spin coupled atoms within the magnetic resonance imaging system at a Larmor frequency of the first atom and exciting the second atom at the Larmor frequency of the second atom. The method further includes the step of detecting a signal from the first atom.